

Applicant: S Watanabe
U.S.S.N.: 10/019,747
RESPONSE TO FINAL OFFICE ACTION
Page 3 of 30

Amendments to the Claims

This listing of claims will replace all prior versions, and listing, of claims in the application.

Listing of Claims:

Claims 1-33 (Canceled)

34. (Currently Amended) A motion picture retrieval information generating apparatus (40) that generates retrieval information for retrieving motion picture data constituted of one or more scenes (140, 142, 144, 146, 160), comprising:

a retrieval information generating section (102, 103, 104, 105) that generates retrieval information corresponding to each of said one or more scenes on the basis of said motion picture data, and

wherein said retrieval information generating section (102, 103, 104, 105) comprises:

a first summary information generating means (103) for forming plural spatially split blocks of a scene which are obtained by spatially splitting said scene and which have a length of said scene in a direction of the time axis and for generating summary information (188) of said scene generated by calculating statistics of motion ~~vectors and~~ predictive modes picture data within each of said spatially split blocks of said scene.

35. (Previously Presented) The motion picture retrieval information generating apparatus according to claim 34, wherein:

each of said scenes (140, 142, 144, 146, 160) are obtained by dividing consecutive motion picture data on the time axis, and

Applicant: S Watanabe
U.S.S.N.: 10/019,747
RESPONSE TO FINAL OFFICE ACTION
Page 4 of 30

said the motion picture retrieval information generating apparatus further comprises:
a motion picture structure information outputting section (101) outputting motion picture structure information expressing positions, in said motion picture data, of each of said scenes,
and
wherein said retrieval information generating section (102, 103, 104, 105) generates retrieval information corresponding to each of said scenes (140, 142, 144, 146, 160) on the basis of said motion picture structure information and said motion picture data.

36. (Previously Presented) The motion picture retrieval information generating apparatus according to claim 34, wherein said first summary information generating means (103) spatially splits each of said scenes (140, 142, 144, 146, 160) into a predetermined number of parts in each of two directions defined spatially.

37. (Previously Presented) A motion picture retrieval information generating apparatus (40) that generates retrieval information for retrieving motion picture data constituted of one or more scenes (140, 142, 144, 146, 160), comprising:

a retrieval information generating section (102, 103, 104, 105) that generates retrieval information corresponding to each of said one or more scenes on the basis of said motion picture data, and

Applicant: S Watanabe
U.S.S.N.: 10/019,747
RESPONSE TO FINAL OFFICE ACTION
Page 5 of 30

wherein said retrieval information generating section (102, 103, 104, 105) comprises:

a first summary information generating means (103) for forming plural spatially split blocks having a length of each of said scenes in a direction of the time axis obtained by spatially splitting said each of said scenes (140, 142, 144, 146, 160) to generate summary information (188) of a spatially split block unit, and

wherein said first summary information generating means (103) splits each of said scenes (140, 142, 144, 146, 160) into 2 to the n th power parts, n being a predetermined number.

38. (Previously Presented) The motion picture retrieval information generating apparatus according to claim 37, wherein said retrieval information generating section (102, 103, 104, 105) further comprises:

a second summary information generating means (102) for temporally dividing each of said scenes (140, 142, 144, 146, 160) to form plural temporally divided blocks having a picture size of said each of said scenes spatially and to generate summary information of a temporally divided block unit.

Applicant: S Watanabe
U.S.S.N.: 10/019,747
RESPONSE TO FINAL OFFICE ACTION
Page 6 of 30

39. (Previously Presented) The motion picture retrieval information generating apparatus according to claim 38, wherein said retrieval information generating section (102, 103, 104, 105) further comprises:

a third summary information generating means (104) for generating summary information of all of each of said scenes (140, 142, 144, 146, 160).

40. (Previously Presented) The motion picture retrieval information generating apparatus according to claim 36, wherein said retrieval information generating section (102, 103, 104, 105) further comprises:

a second summary information generating means (102) for temporally dividing each of said scenes (140, 142, 144, 146, 160) to form plural temporally divided blocks having a picture size of said each of said scenes spatially and to generate summary information of a temporally divided block unit.

41. (Previously Presented) The motion picture retrieval information generating apparatus according to claim 40, wherein said retrieval information generating section (102, 103, 104, 105) further comprises:

a third summary information generating means (104) for generating summary information of all of each of said scenes (140, 142, 144, 146, 160).

Applicant: S Watanabe
U.S.S.N.: 10/019,747
RESPONSE TO FINAL OFFICE ACTION
Page 7 of 30

42. (Previously Presented) The motion picture retrieval information generating apparatus (40) according to claim 34, wherein said retrieval information generating section (102, 103, 104, 105) further comprises:

a second summary information generating means (102) for temporally dividing each of said scenes (140, 142, 144, 146, 160) to form plural temporally divided blocks having a picture size of said each of said scenes spatially and to generate summary information of a plural temporally divided block unit.

43. (Previously Presented) The motion picture retrieval information generating apparatus (40) according to claim 42, wherein said retrieval information generating section (102, 103, 104, 105) further comprises:

a third summary information generating means (104) for generating summary information of all of each of said scenes (140, 142, 144, 146, 160).

44. (Previously Presented) The motion picture retrieval information generating apparatus (40) according to claim 37, wherein said retrieval information generating section (102, 103, 104, 105) further comprises:

a third summary information generating means (104) for generating summary information of all of each of said scenes (140, 142, 144, 146, 160).

Applicant: S Watanabe
U.S.S.N.: 10/019,747
RESPONSE TO FINAL OFFICE ACTION
Page 8 of 30

45. (Previously Presented) The motion picture retrieval information generating apparatus (40) according to claim 36, wherein said retrieval information generating section (102, 103, 104, 105) further comprises:

a third summary information generating means (104) for generating summary information of all of each of said scenes (140, 142, 144, 146, 160).

46. (Previously Presented) The motion picture retrieval information generating apparatus (40) according to claim 34, wherein said retrieval information generating section (102, 103, 104, 105) further comprises:

a third summary information generating means (104) for generating summary information of all of each of said scenes (140, 142, 144, 146, 160).

47. (Currently Amended) A motion picture retrieving apparatus (50) for retrieving a desired picture using retrieval information corresponding to each of one or more scenes (140, 142, 144, 146, 160) constituting motion picture data, in which said motion picture data is related with said retrieval information and said retrieval information comprises summary information (188) for each of said one or more scenes, said motion picture retrieving apparatus comprising:

information managing means (501, 502) for reading and managing said retrieval information;

first scene retrieving means (504), being connected with said information managing means, and for retrieving a scene (140, 142, 144, 146, 160) meeting a first retrieval request in

Applicant: S Watanabe
U.S.S.N.: 10/019,747
RESPONSE TO FINAL OFFICE ACTION
Page 9 of 30

response to said first retrieval request with a scene (140, 142, 144, 146, 160) as a retrieval unit, provided from the outside, using said summary information included in said retrieval information;

wherein said summary information is statistics of motion ~~vectors or predictive modes~~ picture data-within spatially split blocks of said one or more scenes, the spatially split blocks of a scene are obtained by spatially splitting said scene and have a length of said scene in a direction of the time axis.

48. (Previously Presented) The motion picture retrieving apparatus (50) according to claim 47, wherein:

said retrieval information further comprises summary information with plural temporally divided blocks having a picture size of each of said scenes spatially, obtained by temporally dividing said each of said scenes (140, 142, 144, 146, 160), as a unit, and

said motion picture retrieving apparatus further comprises:

second scene retrieving means (505), being connected to said information managing means (501, 502), for retrieving a scene (140, 142, 144, 146, 160) meeting a second retrieval request in response to said second retrieval request with a scene (140, 142, 144, 146, 160) as a retrieval unit, provided from the outside, using said summary information of a temporally divided block unit included in said retrieval information.

Applicant: S Watanabe
U.S.S.N.: 10/019,747
RESPONSE TO FINAL OFFICE ACTION
Page 10 of 30

49. (Previously Presented) The motion picture retrieving apparatus (50) according to claim 48, wherein:

said retrieval information further comprises summary information with each of said scenes (140, 142, 144, 146, 160) as a unit, and

said motion picture retrieving apparatus further comprises:

third scene retrieving means (503), being connected with said information managing means (501, 502), and for retrieving a scene (140, 142, 144, 146, 160) meeting a third retrieval request in response to said third retrieval request with a scene (140, 142, 144, 146, 160) as a retrieval unit, provided from the outside, using said summary information with a scene (140, 142, 144, 146, 160) as a unit included in said retrieval information.

50. (Previously Presented) The motion picture retrieving apparatus (50) according to claim 47, wherein:

said retrieval information further comprises summary information with each of said scenes (140, 142, 144, 146, 160) as a unit, and

said motion picture retrieving apparatus further comprises:

second scene retrieving means (503), connected to said information managing means (501, 502), for retrieving a scene (140, 142, 144, 146, 160) meeting a second retrieval request in response to said second retrieval request with a scene (140, 142, 144, 146, 160) as a retrieval unit, provided from the outside, using said summary information with a scene (140, 142, 144, 146, 160) as a unit included in said retrieval information.

Applicant: S Watanabe
U.S.S.N.: 10/019,747
RESPONSE TO FINAL OFFICE ACTION
Page 11 of 30

51. (Currently Amended) A storage medium (107) in which retrieval information for retrieving motion picture data constituted of one or more scenes (140, 142, 144, 146, 160) is stored together with correspondence information between said retrieval information and said motion picture data, and

wherein said retrieval information comprises summary information (188) for said each of said one or more scenes, the summary information being statistics of motion vectors or predictive modes picture data within spatially split blocks of said one or more scenes, the spatially split blocks of a scene are obtained by spatially splitting said scene and have a length of said scene in a direction of the time axis.

52. (Previously Presented) The storage medium (107) according to claim 51, wherein said retrieval information further comprises summary information with a plurality of temporally divided blocks having a picture size of each of said scenes spatially, obtained by temporally dividing said each of said scenes (140, 142, 144, 146, 160), as a unit.

53. (Previously Presented) The storage medium (107) according to claim 51, wherein said retrieval information further comprises summary information of all of each of said scenes (140, 142, 144, 146, 160).

Applicant: S Watanabe
U.S.S.N.: 10/019,747
RESPONSE TO FINAL OFFICE ACTION
Page 12 of 30

54. (Currently Amended) A motion picture retrieval information managing apparatus for managing retrieval information corresponding to each of one or more scenes (140, 142, 144, 146, 160), constituting motion picture data, wherein said motion picture data is related with said retrieval information and said retrieval information comprises summary information (188) for each of said one or more scenes, comprising:

a read-out section (501) that reads out said retrieval information;

a retrieval information managing section (502) that holds retrieval information read out by said read-out section (501) and outputs said summary information included in said retrieval information in response to a first retrieval request with a scene (140, 142, 144, 146, 160) as a retrieval unit, provided from the outside; and

wherein said summary information is statistics of motion ~~vectors~~ or predictive modes picture data within spatially split blocks of said one or more scenes, the spatially split blocks of a scene are obtained by spatially splitting said scene and have a length of said scene in a direction of the time axis.

55. (Previously Presented) The motion picture retrieval information managing apparatus according to claim 54, wherein:

said retrieval information further comprises summary information with plural temporally divided blocks having a picture size of each of said scenes spatially, obtained by temporally dividing said each of said scenes (140, 142, 144, 146, 160), as a unit, and

Applicant: S Watanabe
U.S.S.N.: 10/019,747
RESPONSE TO FINAL OFFICE ACTION
Page 13 of 30

said retrieval information managing section (502) further outputs said summary information of a temporally divided block unit included in said retrieval information in response to a second retrieval request with a scene (140, 142, 144, 146, 160) as a retrieval unit, provided from the outside.

56. (Previously Presented) The motion picture retrieval information managing apparatus according to claim 55, wherein:

said retrieval information further comprises summary information with each of said scenes (140, 142, 144, 146, 160) as a unit, and

said retrieval information managing section (502) further outputs said summary information with a scene (140, 142, 144, 146, 160) as a unit included in said retrieval information in response to a third retrieval request with a scene (140, 142, 144, 146, 160) as a retrieval unit, provided from the outside.

57. (Previously Presented) The motion picture retrieval information managing apparatus according to claim 54, wherein:

said retrieval information further comprises summary information with each of said scenes (140, 142, 144, 146, 160) as a unit, and

said retrieval information managing section (502) further outputs said summary information with a scene (140, 142, 144, 146, 160) as a unit included in said retrieval

Applicant: S Watanabe
U.S.S.N.: 10/019,747
RESPONSE TO FINAL OFFICE ACTION
Page 14 of 30

information in response to a second retrieval request with a scene (140, 142, 144, 146, 160) as a retrieval unit, provided from the outside.

58. (Currently Amended) A motion picture retrieval information generating apparatus (40) that generates retrieval information for retrieving motion picture data constituted of one or more scenes (140, 142, 144, 146, 160), comprising:

a motion picture structure information outputting section (101) for analyzing the motion picture data and outputting motion picture structure information expressing positions, in said motion picture data, of each of said one or more scenes,

a retrieval information generating section (102, 103, 104, 105) that generates retrieval information corresponding to each of said one or more scenes on the basis of said motion picture data and said motion picture structure information outputted responsive to the motion picture data and the outputted motion picture structure information, and

wherein said retrieval information generating section (102, 103, 104, 105) comprises:

a first summary information generating means (103), being responsive to the motion picture data and the outputted motion picture structure information, for forming a plurality of spatially split blocks, each of the plurality of spatially split blocks having a temporal length of each of said scenes in a direction of the time axis, the plurality of spatially split blocks being obtained by spatially splitting said each of said scenes (140, 142, 144, 146, 160) and for generating summary information (188) for each of the plurality of spatially split blocks, and

Applicant: S Watanabe
U.S.S.N.: 10/019,747
RESPONSE TO FINAL OFFICE ACTION
Page 15 of 30

_____ wherein the summary information being generated by said first summary information generating means (103) for each of the plurality of spatially split blocks comprises frequency information and average information.

59. (Previously Presented) The motion picture retrieval information generating apparatus according to claim 58, wherein:

each of said scenes (140, 142, 144, 146, 160) are obtained by dividing consecutive motion picture data on a time axis, and

wherein said retrieval information generating section (102, 103, 104, 105) generates retrieval information corresponding to each of said scenes (140, 142, 144, 146, 160).

60. (Previously Presented) The motion picture retrieval information generating apparatus according to claim 58, wherein said first summary information generating means (103) spatially splits each of said scenes (140, 142, 144, 146, 160) into a predetermined number of parts in each of two directions defined spatially and so that each of the predetermined number of parts has a length along the direction of the time axis of each of said scenes.

61. (Cancel)

62. (Cancel)

Applicant: S Watanabe
U.S.S.N.: 10/019,747
RESPONSE TO FINAL OFFICE ACTION
Page 16 of 30

63. (Currently Amended) The motion picture retrieval ~~information~~ generating apparatus of any of claims 34, 37 or 58, wherein:

each of said one or more scenes is composed of a plurality ~~or more~~ of frames,

each of said plurality of frames is spatially split in a fashion corresponding to the spatial splitting of said each scene, and

the summary information for each spatially split block of said each scene represents the information of at least a plurality of the corresponding spatial split blocks of the plurality ~~of~~ or more frames making up said each scene.

64. (Currently Amended) The motion picture retrieval ~~information~~ generating apparatus of any of claims 34, 37 or 58, wherein:

each of said one or more scenes is composed of a plurality ~~or more~~ of frames,

each of said plurality of frames is spatially split in a fashion corresponding to the spatial splitting of said each scene, and

the summary information for each spatially split block of said each scene represents the information of all of the corresponding spatial split blocks of the plurality ~~or more~~ of frames making up said each scene.

65. (Cancel)

Applicant: S Watanabe
U.S.S.N.: 10/019,747
RESPONSE TO FINAL OFFICE ACTION
Page 17 of 30

66. (Currently Amended) The motion picture retrieving apparatus of claim 47, wherein:
each of said one or more scenes is composed of a plurality ~~or more of~~ frames,
each of said plurality of frames is spatially split in a fashion corresponding to the spatial
splitting of said each scene, and

the summary information for each spatially split block of said each scene represents the
information of at least a plurality of the corresponding spatial split blocks of the plurality ~~or more~~
~~of frames~~ making up said each scene.

67. (Currently Amended) The motion picture retrieving apparatus of claim 47, wherein:
each of said one or more scenes is composed of a plurality ~~or more of~~ frames,
each of said plurality of frames is spatially split in a fashion corresponding to the spatial
splitting of said each scene, and

the summary information for each spatially split block of said each scene represents the
information of all of the corresponding spatial split blocks of the plurality ~~or more of~~ frames
making up said each scene.

68. (Cancel)

69. (Currently Amended) The motion picture retrieval information managing apparatus
of claim 54, wherein:

each of said one or more scenes is composed of a plurality ~~or more of~~ frames,

Applicant: S Watanabe
U.S.S.N.: 10/019,747
RESPONSE TO FINAL OFFICE ACTION
Page 18 of 30

each of said plurality of frames is spatially split in a fashion corresponding to the spatial splitting of said each scene, and

the summary information for each spatially split block of said each scene represents the information of at least a plurality of the corresponding spatial split blocks of the plurality or more of frames making up said each scene.

70. (Currently Amended) The motion picture retrieval information managing apparatus of claim 54, wherein:

each of said one or more scenes is composed of a plurality or more of frames,

each of said plurality of frames is spatially split in a fashion corresponding to the spatial splitting of said each scene, and

the summary information for each spatially split block of said each scene represents the information of all of the corresponding spatial split blocks of the plurality or more of frames making up said each scene.

71. (New) A motion picture retrieval information generating apparatus (40) that generates retrieval information for retrieving motion picture data constituted of one or more scenes (140, 142, 144, 146, 160), comprising:

a retrieval information generating section (102, 103, 104, 105) that generates retrieval information corresponding to each of said one or more scenes on the basis of said motion picture data, and

Applicant: S Watanabe
U.S.S.N.: 10/019,747
RESPONSE TO FINAL OFFICE ACTION
Page 19 of 30

wherein said retrieval information generating section (102, 103, 104, 105) comprises:
a first summary information generating means (103) for forming plural spatially split blocks of a scene which are obtained by spatially splitting said scene and which have a length of said scene in a direction of the time axis and for generating summary information (188) of said scene generated by calculating statistics of motion picture data within each of said spatially split blocks of said scene, wherein said first summary information generating means (103) spatially splits each of said scenes (140, 142, 144, 146, 160) into a predetermined number of parts in each of two directions defined spatially,

a second summary information generating means (102) for temporally dividing each of said scenes (140, 142, 144, 146, 160) to form plural temporally divided blocks having a picture size of said each of said scenes spatially and to generate summary information of a temporally divided block unit, and

a third summary information generating means (104) for generating summary information of all of each of said scenes (140, 142, 144, 146, 160).

72. (New) A motion picture retrieval information generating apparatus (40) that generates retrieval information for retrieving motion picture data constituted of one or more scenes (140, 142, 144, 146, 160), comprising:

a retrieval information generating section (102, 103, 104, 105) that generates retrieval information corresponding to each of said one or more scenes on the basis of said motion picture data, and

Applicant: S Watmabe
U.S.S.N.: 10/019,747
RESPONSE TO FINAL OFFICE ACTION
Page 20 of 30

wherein said retrieval information generating section (102, 103, 104, 105) comprises:
a first summary information generating means (103) for forming plural spatially split blocks of a scene which are obtained by spatially splitting said scene and which have a length of said scene in a direction of the time axis and for generating summary information (188) of said scene generated by calculating statistics of motion picture data within each of said spatially split blocks of said scene, and
a third summary information generating means (104) for generating summary information of all of each of said scenes (140, 142, 144, 146, 160).

73. (New) A motion picture retrieving apparatus (50) for retrieving a desired picture using retrieval information corresponding to each of one or more scenes (140, 142, 144, 146, 160) constituting motion picture data, in which said motion picture data is related with said retrieval information and said retrieval information comprises summary information (188) for each of said one or more scenes, said retrieval information further comprising summary information with plural temporally divided blocks having a picture size of each of said scenes spatially, obtained by temporally dividing said each of said scenes (140, 142, 144, 146, 160), as a unit, and summary information with each of said scenes (140, 142, 144, 146, 160) as a unit, said motion picture retrieving apparatus comprising:

information managing means (501, 502) for reading and managing said retrieval information;

Applicant: S Watanabe
U.S.S.N.: 10/019,747
RESPONSE TO FINAL OFFICE ACTION
Page 21 of 30

first scene retrieving means (504), being connected with said information managing means, and for retrieving a scene (140, 142, 144, 146, 160) meeting a first retrieval request in response to said first retrieval request with a scene (140, 142, 144, 146, 160) as a retrieval unit, provided from the outside, using said summary information included in said retrieval information;

wherein said summary information is statistics of motion picture data within spatially split blocks of said one or more scenes, the spatially split blocks of a scene are obtained by spatially splitting said scene and have a length of said scene in a direction of the time axis;

second scene retrieving means (505), being connected to said information managing means (501, 502), for retrieving a scene (140, 142, 144, 146, 160) meeting a second retrieval request in response to said second retrieval request with a scene (140, 142, 144, 146, 160) as a retrieval unit, provided from the outside, using said summary information of a temporally divided block unit included in said retrieval information; and

third scene retrieving means (503), being connected with said information managing means (501, 502), and for retrieving a scene (140, 142, 144, 146, 160) meeting a third retrieval request in response to said third retrieval request with a scene (140, 142, 144, 146, 160) as a retrieval unit, provided from the outside, using said summary information with a scene (140, 142, 144, 146, 160) as a unit included in said retrieval information.

74. (New) A motion picture retrieval information managing apparatus for managing retrieval information corresponding to each of one or more scenes (140, 142, 144, 146, 160),

Applicant: S Watanabe
U.S.S.N.: 10/019,747
RESPONSE TO FINAL OFFICE ACTION
Page 22 of 30

constituting motion picture data, wherein said motion picture data is related with said retrieval information and said retrieval information comprises summary information (188) for each of said one or more scenes, comprising:

a read-out section (501) that reads out said retrieval information;

a retrieval information managing section (502) that holds retrieval information read out by said read-out section (501) and outputs said summary information included in said retrieval information in response to a first retrieval request with a scene (140, 142, 144, 146, 160) as a retrieval unit, provided from the outside;

wherein said summary information is statistics of motion picture data within spatially split blocks of said one or more scenes, the spatially split blocks of a scene are obtained by spatially splitting said scene and have a length of said scene in a direction of the time axis;

wherein said retrieval information further comprises summary information with plural temporally divided blocks having a picture size of each of said scenes spatially, obtained by temporally dividing said each of said scenes (140, 142, 144, 146, 160), as a unit, and said retrieval information managing section (502) further outputs said summary information of a temporally divided block unit included in said retrieval information in response to a second retrieval request with a scene (140, 142, 144, 146, 160) as a retrieval unit, provided from the outside; and

wherein said retrieval information further comprises summary information with each of said scenes (140, 142, 144, 146, 160) as a unit, and said retrieval information managing section (502) further outputs said summary information with a scene (140, 142, 144, 146, 160) as a unit

Applicant: S Watanabe
U.S.S.N.: 10/019,747
RESPONSE TO FINAL OFFICE ACTION
Page 23 of 30

included in said retrieval information in response to a third retrieval request with a scene (140, 142, 144, 146, 160) as a retrieval unit, provided from the outside.